🌟 1. Purpose of Performance Measurement

- Companies measure and reward performance to **motivate managers** toward achieving **strategic objectives** and **operational goals**.
- A **good performance measurement system** aligns individual and unit goals with **overall company goals**.

🎯 2. Problem: Misaligned Goals

If managers are rewarded **only for their own division's success**, they might:

- Maximize **their unit's** profits,
- But harm the **overall company's** performance.

✅ Therefore, performance measures must be **linked to corporate strategy** (e.g., market share growth, cost reduction, innovation).

🤝 3. Goal Congruence

Definition:

Goal congruence means aligning the goals of individual managers with the goals of the entire organization.

Key Idea:

- Managers' self-interest should naturally **lead to actions** that also help achieve **company-wide goals**.
- Evaluation and rewards should be based on **achievements that benefit the whole company**, not just one department.

⏳ 4. Short-Term vs. Long-Term Focus

- Too much **short-term emphasis** (e.g., focusing only on quarterly results) can:
  - Lead managers to cut important investments (like R&D, training, or marketing),
  - Harm **long-term success**.

Example:

A pharmaceutical company might cut R&D to boost quarterly profit — but later, with no new drugs, it loses revenue when patents expire and faces generic competition.

✅ A **balanced approach** is needed:

- Combine **short-term financial metrics** (e.g., ROI, profit margin)
- With **long-term indicators** (e.g., innovation, customer loyalty, sustainability).

🧩 Summary Table

Concept	Meaning / Purpose	Example
Performance Measurement System	Evaluates and rewards managers' achievements	Linking bonuses to company objectives

Concept	Meaning / Purpose	Example
Goal Congruence	Aligns managers' goals with company goals	Manager incentives tied to firm-wide profit
Short-term vs. Long-term	Ensures balance between immediate profit and future growth	Continue R&D even if it reduces this year's profit

🕑 Timing of Feedback

🌟 1. Importance of Feedback

- Feedback is a **critical part** of any performance measurement system.
- It helps managers **evaluate results** and **take corrective actions** when needed.
- **Timely feedback** is essential — **late feedback loses value** because managers can't act on it effectively.

🗓️ 2. Factors Affecting Feedback Timing

The **timing** depends on three main factors:

1. **Who** receives the feedback
2. **How important** the information is
3. **What** the feedback contains (its content)

🏢 3. Example: Profit Center Managers

- Managers responsible for **sales and profit** (profit centers) need **frequent feedback** — often **daily or weekly**.
- Especially important in businesses with **high fixed costs**, where sales must cover those costs quickly.
- Example:
    - If sales decline, managers need **immediate notice** to take action and prevent losses.

👔 4. Example: Top Management

- For **top management**, the **frequency** of feedback is usually **less**.
- They may need **monthly reports** instead of daily ones.
- However, if there's **a serious concern** (e.g., sales slump, operational issue), they may require **more frequent updates**.

🧩 Summary Table

Level	Feedback Frequency	Reason
Profit Center Managers	Daily or Weekly	Need quick action to control sales & costs

Level	Feedback Frequency	Reason
Top Management	Monthly (or more frequent if needed)	Strategic decision-making; less operational detail

Residual Income (RI) – Overview

Residual Income (RI) is a financial performance measure used to evaluate the profitability of a business unit or investment **after accounting for the cost of capital**. It helps determine whether a segment or manager is generating returns **above the minimum required return** set by the company.

Residual Income measures the **absolute monetary profit** earned by a division **after** covering a required return on its invested assets.
It shows **how much operating income remains** after charging the **imputed cost** of capital employed.

Formula

$$\text{Residual Income (RI)} = \text{Operating Income} - (\text{Invested Assets} \times \text{Required Rate of Return})$$

- The second term represents the **target monetary return** or **imputed cost of capital**.
- The required rate of return (RRR) is **set by management** — it can be equal to the company's **WACC** or a **specific hurdle rate**.

Example

Given:
Assets = ₹4,000,000
Operating Income = ₹600,000
Required Rate of Return = 10%

$$\text{Target Return} = 4{,}000{,}000 \times 10\% = 400{,}000$$
$$\text{Residual Income} = 600{,}000 - 400{,}000 = ₹200{,}000$$

✅ **Positive RI = Good** (division earns above required return).
❌ **Negative RI = Poor** (division underperforms required return).

Interpretation

- RI = 0 → Earns exactly the required return.
- RI > 0 → Adds value to the company.
- RI < 0 → Destroys value (under target).

RI for Project Evaluation

Use the same formula, but replace:

- Actual income → **Projected operating income**
- Actual assets → **Planned investment**

$$\text{Projected RI} = \text{Projected Operating Income} - (\text{Investment} \times \text{Required Rate})$$

A project is **acceptable** if RI is **positive**, even if its ROI is **lower than current divisional ROI** — because it **adds absolute profit**.

Advantages of RI

1. **Encourages goal congruence** — accepts projects beneficial to the company even if ROI is lower.
2. **Adjustable for risk** — different required rates for high- and low-risk units.
3. **Flexible asset charges** — different rates for different asset types.

Limitations of RI

1. **Absolute measure** — can't easily compare divisions of different sizes.
2. **Sensitive to required rate** — small change impacts RI greatly for large units.
3. **Affected by accounting policies** — depreciation, asset valuation, etc.
4. **May ignore scale of return** — a small RI may not justify large investments.

ROI vs RI

Basis	**ROI**	**RI**
Nature	Relative (percentage)	Absolute (₹ or $)
Focus	Efficiency of capital use	Value created over required return
Decision Impact	May reject profitable projects	Accepts all value-adding projects
Comparability	Easier across divisions	Difficult (due to size differences)

Return on Investment (ROI)

🌟 **1. Definition**

- **ROI** is a key performance measure for an **investment center**.
- It shows the **percentage return** earned on the **assets invested** in a business unit.
- Can evaluate performance for:
  - The **entire company**, or
  - An **individual division / business unit manager**.

📘 **Formula:**

$$\text{ROI} = \frac{\text{Annual Income of Business Unit}}{\text{Assets of Business Unit}}$$

Note: Unless otherwise stated, *"Income" = Operating Income* (not net income).

🧮 2. Calculation Details

- For exams, use the **assets amount given** (no need to average beginning & ending balances) — unless both are given, in which case use the average.
- If **only one asset amount** is given (e.g., just ending balance), **use that directly**.
- If **both beginning and ending balances** are provided, **calculate the average**:

$$\text{Average Assets} = \frac{\text{Beginning Assets} + \text{Ending Assets}}{2}$$

- If income is for less than one year, **annualize** it to express the rate on a yearly basis.

📊 Annualizing Examples:

Period Given	Multiply By	Example
1 quarter	× 4	₹50,000 × 4 = ₹200,000 annual income
1 month	× 12	₹20,000 × 12 = ₹240,000 annual income
5 months	÷5 ×12	₹100,000 ÷5 ×12 = ₹240,000 annual income

✅ **Purpose:** Ensures ROI is expressed as an **annual percentage rate**.

🧩 3. Interpreting ROI

ROI can serve two major purposes:

Purpose	How It's Used
Evaluation Tool	Compare division's ROI with other divisions or overall company ROI.
Decision Tool	Assess whether a proposed project's ROI meets the **required rate of return** (hurdle rate).

A project is **acceptable** if its ROI ≥ required rate of return.
It is **not acceptable** if ROI < required rate of return.

🎯 The Required Rate of Return (Hurdle Rate)

- The **minimum acceptable return** on an investment or business unit.
- Determined by **senior management**.
- Often equal to (or based on) the company's **Weighted Average Cost of Capital (WACC)**.
- Adjusted for **risk level**:
    - **Higher risk project/unit** → higher required rate.
    - **Lower risk** → lower required rate.

💰 Weighted Average Cost of Capital (WACC)

- Represents the **average cost of long-term funds (debt + equity)**.

- Expressed as a **percentage rate** — an estimate of what the company must earn to satisfy its investors.
- CMA Part 1 **does not require** WACC calculation (given in exam questions).

📘 **General Idea (for understanding only):**

$$\text{WACC} = \frac{(\text{Interest Paid on Debt} - (1 - \text{Tax Rate})) + \text{Dividends Paid on Shares}}{\text{Fair Value of Debt + Fair Value of Shares}}$$

🧾 **After-Tax Cost of Interest:**

$$\text{Interest Cost} \times (1 - \text{Tax Rate})$$

Interest is tax-deductible, so the after-tax cost is **lower** than the stated rate.

- ***A company is financed with:***
- **Debt**: ₹10,00,000 at **10% interest rate**
- **Equity**: ₹15,00,000 with **expected dividend return of 12%**
- **Corporate Tax Rate**: 30%

🧾 **Step 1: Calculate After-Tax Cost of Debt**

$$\text{Interest Cost} = ₹10{,}00{,}000 \times 10\% = ₹1{,}00{,}000$$

$$\text{After-Tax Cost of Interest} = ₹1{,}00{,}000 \times (1 - 0.30) = ₹70{,}000$$

💰 **Step 2: Calculate Cost of Equity**

$$\text{Cost of Equity} = ₹15{,}00{,}000 \times 12\% = ₹1{,}80{,}000$$

📊 **Step 3: Apply WACC Formula**

$$\text{WACC} = \frac{₹70{,}000 + ₹1{,}80{,}000}{₹10{,}00{,}000 + ₹15{,}00{,}000} = \frac{₹2{,}50{,}000}{₹25{,}00{,}000} = 10\%$$

✅ **Final Result:**

- **After-Tax Cost of Interest** = ₹70,000
- **WACC** = **10%**

This means the company must earn at least **10% return on its investments** to satisfy both debt holders and equity investors.

⚠️ **4. Disadvantages of Using ROI**

Issue	Explanation
Percentage vs. Amount	ROI shows a *percentage return*, not total profit. A manager might reject a project that lowers ROI even if it **increases company profit**.
Short-Term Focus	Managers might cut long-term investments (R&D, training, advertising) to boost short-term ROI.
Accounting Distortion	Different accounting policies (e.g., depreciation methods, asset valuation) can distort ROI results.

📉 **Example:**
A project earns 12% ROI while the division currently earns 15%, but the company's required rate of return is 10%.
→ The project **should be accepted** (benefits the company), but the manager may reject it because it lowers division ROI.

✅ **5. Benefits of ROI**

- Widely used and **easily understood**.
- Helps determine if a **division should accept an investment** or project.
- Can compare ROI of a project with:
    - Company's **cost of capital**, and
    - **Alternative investment opportunities**.

🚫 **6. Limitations of ROI**

Limitation	Impact
Measures return as a % instead of ₹	May discourage profitable projects that lower ROI.
Encourages short-term focus	Managers prioritize immediate results over sustainable growth.
Affected by accounting policies	ROI can be manipulated or distorted by accounting choices.

🧭 **Key Takeaway**

ROI is a powerful and simple measure but **should not be used alone**.
Combine it with **Residual Income (RI)** and **non-financial measures** (like innovation or customer satisfaction) for a balanced evaluation.

Effect of Accounting Policies on ROI and RI

🔹 **Why It Matters**

- ROI and RI depend on **Operating Income** (numerator) and **Investment/Assets** (denominator).
- Different **accounting methods** can change these figures — making **comparisons unfair** between divisions.
- To ensure **comparability**, all divisions should use the **same accounting policies**.

⚙️ **Five Key Accounting Policy Areas Affecting ROI and RI**

No.	Area	Main Issue	Effect on ROI/RI
1	**Inventory Cost Flow Assumption**	FIFO, LIFO, or Weighted Average	- **FIFO** → Higher inventory & income → Higher ROI/RI in inflation. - **LIFO** → Lower inventory & income → Lower ROI/RI. - **Weighted Avg.** → Between FIFO & LIFO.

No.	Area	Main Issue	Effect on ROI/RI
2	**Depreciation Method & Asset Values**	Net book value changes with age and method	- **Older assets** → Lower book value, less depreciation → Artificially high ROI/RI. - **New assets** → Higher book value, more depreciation → Lower ROI/RI. - May cause **managers to delay asset replacement** to keep ratios high.
3	**Asset Capitalization Policy**	Expensing vs. capitalizing small purchases	- **Expensing** → Immediate income reduction (lower ROI/RI now). - **Capitalizing** → Spread expense → Higher income now (higher ROI/RI short term). - Must use the **same capitalization threshold** across divisions.
4	**Use of Full (Absorption) Costing**	Fixed overhead included in inventory	- If **inventory increases**, some fixed costs are capitalized → Higher income → Higher ROI/RI. - If **inventory decreases**, income falls → Lower ROI/RI. - Managers may manipulate production to influence results.
5	**Disposition of Manufacturing Variances**	Whether variances go to COGS or prorated	- **Closed to COGS only** → May distort income and assets. - **Prorated** → Gives more accurate results and fairer ROI/RI.

📄 Other Factors Affecting Comparability

Factor	Description	Effect
Nonrecurring Items	One-time gains/losses	Distorts current year's ROI/RI.
Income Taxes	Different tax rates by region	Unequal after-tax results across units.
Foreign Exchange Rates	Currency fluctuations	Affects reported income and assets.
Joint Asset Sharing	Allocation of shared costs	Different allocation bases affect divisional profitability.

⚠️ Key Takeaways

- **Consistency** in accounting policies = **fair comparability**.
- **FIFO vs LIFO**, **depreciation methods**, and **asset values** can **distort ROI/RI** if not standardized.
- ROI/RI can appear **artificially high or low** due to accounting choices, not true performance.
- Management should review whether policies **understate or overstate** both income and assets.

💡 Exam Tips

- You **don't need to calculate** differences from policies — only **recognize** how they affect comparability.

- If two divisions use **different accounting methods**, **ROI and RI cannot be directly compared**.
- Watch for **older assets or LIFO inventory** questions — they usually show **lower assets or income**, thus affecting ROI/RI.

🌎 Comparing the Performance of Subsidiaries Operating in Different Countries

🔹 Why It Matters

When a company operates across countries, comparing **ROI (Return on Investment)** or **RI (Residual Income)** between subsidiaries can be **misleading** because each country has **different operating environments** that influence both income and assets.

⚙️ Key Factors That Distort Comparisons

Factor	Description	Possible Effect on ROI/RI
1. Economic Conditions	Inflation, recession, interest rates differ by country	Inflation may **inflate asset values or revenues**, distorting ROI/RI.
2. Political, Social & Cultural Environment	Differences in government stability, labor laws, and work culture	May impact costs, productivity, and profitability.
3. Currency Exchange Rates & Laws	Exchange rate fluctuations and currency controls	Translation of foreign results may **increase or decrease** ROI/RI in reporting currency.
4. Legal & Regulatory Requirements	Price controls, patents, or copyrights vary	May **restrict profitability** or affect asset protection.
5. International Trade Regulations	Tariffs, customs duties, import/export limits	Can **raise costs** or **reduce market access**.
6. Availability & Cost of Resources	Labor, raw materials, and capital availability differ	Higher costs or shortages lower income → **lower ROI/RI**.
7. Infrastructure Quality	Power, transport, communications, water, waste systems	Poor infrastructure increases costs, reducing efficiency and returns.

🧮 Adjustment for Comparability

When evaluating performance across subsidiaries:

- **Adjust ROI and RI** for inflation, currency exchange changes, and cost structure differences.
- **Normalize accounting policies** (inventory, depreciation, etc.) across subsidiaries.
- Evaluate **qualitative factors** (risk, environment, regulation) alongside numerical ROI/RI.

📊 Using ROI and RI – Exam Focus

Concept	Focus	Formula	Interpretation
ROI	Rate (percentage) of return	ROI = Operating Income ÷ Investment	Focuses on **efficiency** — percentage return per ₹ invested.
RI	Absolute monetary amount of return	RI = Operating Income − (Investment × Required Rate of Return)	Focuses on **value created** beyond required return.

💡 Decision Implications

Aspect	ROI	RI
Decision Focus	% rate of return	₹ absolute return
Behavioral Impact	May lead managers to **reject good projects** with ROI below current average	Encourages managers to **accept any project** with **positive RI**
Best For	Measuring efficiency	Measuring total contribution to company value

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⚠️ Key Takeaways

- ROI = *Rate* → Efficiency measure.
- RI = *Residual Income* → Absolute profit measure.
- ROI and RI can **lead to different investment decisions**.
- For global operations, **adjust for local economic, legal, and currency differences** to ensure fair comparison.